

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512



July 2, 1999

Mr. Joe Rowley
Elk Hills Power, LLC
101 Ash St.
San Diego, CA 92101

Dear Mr. Rowley,

ELK HILLS POWER PROJECT DATA REQUESTS

Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission staff requests the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess project alternatives and potential mitigation measures.

Data requests are being made in the areas of: air quality, biological resources, cultural resources, hazardous materials management, traffic and transportation, and visual resources. Written responses to the enclosed data requests are due to the Energy Commission staff on or before August 3, 1999, or a later mutually agreed upon date.

If you are unable to provide the information requested, need additional time to provide the information, or object to providing it, you must send a written notice to both Commissioner David A. Rohy, and to me, within 15 days of receipt of this notice. The notification must contain the reasons for not providing the information, the need for additional time and the grounds for any objections (see Title 20, California Code of Regulations section 1716 (e)).

A publicly noticed workshop is scheduled for July 13, 1999, at the Valley Acres Community Center, Valley Acres, California, to discuss and clarify these data requests. Staff will be available to answer questions regarding the data requests and the level of detail required to answer the requests satisfactorily.

Mr. Joe Rowley

July 2, 1999

Page 2

If you have any questions regarding the enclosed data requests, please call me at (916) 653-0159.

Sincerely,

Marc S. Pryor
Energy Facility Siting Project Manager

cc: Elk Hills Power Project Proof of Service List
Docket (99-AFC-1)
Matt Haber US Environmental Protection Agency, Region IX
John Robertson, California Air Resources Board
Tom Goff, San Joaquin Valley Unified Air Pollution Control District
Peter Cross, US Fish and Wildlife Service
Dale Mitchell, California Department of Fish and Game, Region 4
West Kern Water District
Ron Daschmans, Cal ISO

**ELK HILLS POWER PROJECT
DATA REQUESTS
(99-AFC-1)**

Technical Area: Air Quality
Author: Joseph M. Loyer

ISSUE: The applicant has stated in the Application for Certification, February 1999, that they intend to inject steam into the dry low NO_x (DLN) combustors for purposes of power augmentation. However, the DLN technology is very sensitive and may not tolerate steam injection. Staff would like to see some assurances that this proposal will not result in unacceptably high CO emissions or flame instability that might result in an unexpected shutdown.

DATA REQUEST

1. Please provide manufacture statements for both the Westinghouse and General Electric gas turbines and post-combustion control devices, explaining the likely results of the steam injection proposal. These explanations are to include the following:
 - A. The upper limit of the steam injection rate that would not adversely affect flame stability.
 - B. The expected CO emissions prior to and after the CO catalyst corresponding to all levels of steam injection rates possible.
 - C. The expected NO_x emissions prior to and after the SCR corresponding to all levels of steam injection rates possible.
 - D. The ultimate effect of the steam injection on the life of the turbine, combustors and post-combustion control devices.

ISSUE: The offset ratio for interpollutant trading ratio of NO_x for PM₁₀ has been determined by the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) in their Determination of Compliance (DOC) for the La Paloma project to be 2.22 pounds (lbs.) of NO_x to every 1 lb. of PM₁₀. The applicant assumed the interpollutant offset ratio for NO_x to PM₁₀ to be 1:1.

DATA REQUEST

2. Please discuss what interpollutant ratio will be provided for the project PM₁₀ emissions.

ISSUE: The applicant has stated that they wish to have 200 "warm" start-ups per year, in addition to an undefined number of hot and cold start-ups. These terms are not clearly defined and may significantly impact the project analysis.

**ELK HILLS POWER PROJECT
DATA REQUESTS
(99-AFC-1)**

DATA REQUESTS

3. Please describe the duration of turbine downtime (hours or days) that define a cold, warm and a hot start-up.
4. Please describe the duration of a cold and hot start-up scenario.
5. Please provide the criteria pollutant emissions (NO_x, SO_x, CO, PM₁₀ and VOC) information for a typical cold and hot start-up scenario.
6. Does the applicant anticipate that they will simultaneously start-up both turbines under any start-up scenarios?
7. Please describe the number of start-ups per year for each start-up scenario.

ISSUE: The applicant has identified that they intend to use emission reduction credits (ERCs) available from the SJVUAPCD bank. They have estimated the amount of ERCs they will need. However, they have not identified the exact ERCs they will purchase. Staff will need to know the specific ERCs that the applicant will purchase so that we can evaluate their acceptability.

DATA REQUEST

8. Please provide the specific identification of the ERCs that will be purchased for the mitigation of the proposed project.

Technical Area: Hazardous Materials Management
Author: Joseph M. Loyer

ISSUE: The applicant states in the Application for Certification (AFC) that the offsite consequence analysis (OCA) for an anhydrous ammonia tank breach will include a plot of concentric concentrations of ammonia at end-points of 75, 200, 500, 1000 and 2000 ppm. Staff notes that the 500-ppm end-point is the old National Institute of Occupational Safety and Health (NIOSH) immediately dangerous to life and health (IDLH) level, which was revised to 300 ppm.

DATA REQUEST

9. Please submit a modified OCA protocol to reflect the new IDLH level and the results of the models.

ISSUE: The applicant has stated in their AFC that the OCA will assume that a water deluge system will control ammonia emissions by 50%. The Environmental Protection

**ELK HILLS POWER PROJECT
DATA REQUESTS
(99-AFC-1)**

Agency (EPA) RMP guidance on the OCA states that all non-passive controls are assumed to fail. This water deluge system is a non-passive control. However, the EPA guidance is not binding on the California Environmental Quality Act (CEQA) analysis that staff is responsible for preparing.

DATA REQUESTS

10. Please provide an analysis justifying the 50% estimated control level for the water deluge system and an estimate of the probability of failure of the proposed control system.
11. Please provide an OCA assuming the total failure of the water deluge system.

ISSUE: The applicant states in the AFC that the project site is located near the intersection of Elk Hills Road and Skyline Road. The OCA should include the ammonia concentrations at these roads to evaluate their impact on passing motorists. Also, a housing structure for oil field personnel has been identified approximately 1,000 feet across Elk Hills Road from the proposed site. Although this does not represent the nearest public receptor, staff is concerned for the safety of the individuals housed here.

DATA REQUESTS

12. Include the location along the Elk Hills and Skyline Roads where they intersect with the identified end-points in the OCA.
13. Include the expected concentration of ammonia at the house located across Elk Hills Road from the proposed facility site in the OCA.
14. Propose reasonable accommodations for the personnel housed there such that they could effect self-rescue. Reasonable accommodations might include:
 - A. Protective face masks or other apparel,
 - B. Remotely activated alarms,
 - C. Sufficient training.

ISSUE The applicant has stated in the AFC (page 5.12-6) that they will be storing sodium hypochlorite and sulfuric acid in appropriately designed tanks with secondary spill containments. It is further stated that the sulfuric acid will be isolated from incompatible chemicals. Staff has identified the accidental mixing of these chemicals during delivery as a reasonably foreseeable risk that can be addressed during the siting process.

**ELK HILLS POWER PROJECT
DATA REQUESTS
(99-AFC-1)**

DATA REQUEST

15. Specify what measures, precautions or procedures will be taken to reasonably ensure that incompatible chemicals will not be accidentally mixed during delivery.

ISSUE: The applicant has stated in the AFC (page 5.12-3) that they will be storing 12,000 gallons (approximately 20,100 pounds) of anhydrous ammonia on-site. The Process Safety Management (PSM) trigger level for anhydrous ammonia under the Occupational Safety and Health Act (OSHA) is 10,000 lbs CCR Title 8, Section 5189, Appendix A. The applicant has not addressed how they will comply with the OSHA requirements.

DATA REQUEST

16. Please provide a description of how the applicant will comply with the OSHA PSM requirements.

ISSUE: The applicant has stated that they will use natural gas as the fuel for the gas turbines at the proposed facility. However, the conclusion that there is an insignificant risk from fire or explosion is not adequately supported.

DATA REQUESTS

17. Specify where the main shut-off valve will be located on the natural gas supply line. Please discuss the valve and how it will be generated.
18. Describe the use of the following elements if applicable to this project as they relate to the safe use of natural gas:
- A. Double block-and-bleed valves.
 - B. Automated combustion controls.
 - C. Burner management systems.
19. Briefly describe the start-up procedures as they relate to the safe use of natural gas, including air purging the gas turbines.

Technical Area: Traffic and Transportation

Author: Eric Knight

ISSUE: Staff needs to better understand impacts to the local and state roadway systems as a result of construction of transmission line alternative Route 1B.

**ELK HILLS POWER PROJECT
DATA REQUESTS
(99-AFC-1)**

DATA REQUESTS

20. From mile post (MP) 4.3 to MP 8.6, Route 1B will be installed within the Wasco Way right-of-way. Please provide a discussion of impacts to traffic on Wasco Way as a result of construction within the road right-of-way. The discussion should address the need, if any, for lane closure.
21. Route 1B will cross State Highway 58. Please provide a discussion of required netting or closure of Highway 58 for overhead transmission line installation.

Technical Area: Visual Resources
Author: David Flores

ISSUE: The AFC (pg.5.10-2) identifies various communities in the region of the project area.

DATA REQUEST

22. Please show all these communities on a map and their relationship to the project site.

ISSUE: The AFC (pg.5.10-2) discusses Tule Elk State Reserve located north of the Elk Hills range, yet the location is not shown on any maps.

DATA REQUESTS

23. Please show the Tule Elk State Reserve on a map and estimate the number of visitors to the Reserve.
24. Please clarify that there will not be a view of the project from the Reserve.

ISSUE: The AFC (pg.5.10-3) states that the 6" wastewater pipeline from the plant will be carried by an above ground pipeline.

DATA REQUEST

25. Please specify the wastewater line's height above the ground.

ISSUE: The AFC (pg.5.10-8&9) discusses the transmission line Route 1A at Key Observation Point (KOP) 3 which represents the views from Tupman, and KOP 4 which represents the area along Tupman Road near the transmission line crossing. The AFC states the visual quality is lower for KOP 4 than KOP 3. Provide clarification as to why visual quality is lower for KOP 4 than KOP 3.

**ELK HILLS POWER PROJECT
DATA REQUESTS
(99-AFC-1)**

DATA REQUEST

26. Please provide clarification as to why visual quality is lower for KOP 4 than KOP 3.

ISSUE: The AFC (pg. 5.10-20, section 5.10.8) states that no permits are required specific to visual resources. AFC page 5.10-19, Table 5.10-3 indicates a conditional use permit will be required for the power plant and compliance with landscape requirements.

DATA REQUEST

27. Please provide clarification as to the conditional use permit requirements by the County.

Technical Area: Cultural Resources

Author: Kathryn Matthews and Dorothy Torres

ISSUE: Staff must conduct an independent analysis of the potential for the project to impact cultural resources. The location of known resources, in relation to areas potentially affected by the project, provides a context for the determination of resource occurrence, or sensitivity, and impact potential.

DAT REQUEST

28. Using the 7.5 minute base map provided as AFC Figure 5.16-2, showing the extent of pre-AFC surveys of areas potentially affected by the proposed Elk Hills Power Plant Project, please provide a supplementary map (to be submitted with a request for confidentiality) showing the following information:

- a. The location of all known, recorded sites and isolates located within the project APE (area of potential effects).
- b. The location of all recorded sites and isolates located within 0.25 mile of the project APE.
- c. The specific location of all project-related new access roads and spurs and construction-related, storage areas, pull sites, lay-down areas, and parking lots.

ISSUE: Staff must conduct an independent analysis of the potential for the project to impact cultural resources. Information on generalized construction methods or procedures provides an indication of the potential for construction to cause impacts to

**ELK HILLS POWER PROJECT
DATA REQUESTS
(99-AFC-1)**

previously unknown, subsurface cultural resources.

DATA REQUESTS

29. For the power plant site and immediate vicinity, please discuss the estimated depth of previous disturbance and the potential for proposed cut and fill activities or the excavation for construction of foundation mats or pads, to enter previously undisturbed soils.
30. For the linear facilities, please discuss the expected maximum and typical width and depth of any required trenches for below-ground pipelines or transmission tower / pole foundation footings. Please also discuss the estimated maximum and typical (or “not-to-exceed” limitations) width of surface disturbance on either side of proposed linear facilities.
31. For other off-site project areas such as access roads and spurs, storage areas, pull sites, lay-down areas, and parking lots, please discuss the estimated area of surface disturbance

ISSUE: Staff must conduct an independent analysis of the potential for the project to impact cultural resources. The AFC refers to a pre-existing agreement between the US Dept of Energy (DOE) and Occidental of Elk Hills, Inc (OEHI) which includes a Cultural Resource Management Plan (CRMP) and a commitment to an on-going Native American consultation process. The confidential appendix to the AFC for cultural resources contains a copy of the Licensing Agreement and the Programmatic Agreement between DOE and OEHI.

DATA REQUESTS

32. Please provide a copy of the Cultural Resource Management Plan. If the CRMP contains information on the specific location of known archaeological sites, it should be submitted with a request that it be kept confidential.
33. Please provide the name, address, and phone number of a contact person within DOE with whom staff can coordinate its analysis and development of Conditions of Certification for the proposed Elk Hills Power Plant Project.

Technical Area: Biological Resources
Author: Linda Spiegel

ISSUE: The AFC states that 62 to 71 acres of habitat will be permanently impacted by the project but, due to existing disturbances, only 11.9 acres of newly disturbed habitat will be fully mitigated. Some listed species in the area, including San Joaquin kit fox

**ELK HILLS POWER PROJECT
DATA REQUESTS
(99-AFC-1)**

and Hoover's eriastrum, will occur in highly disturbed habitat. Placing permanent structures or frequently traveled roads in the area will reduce or eliminate use by these species. Also, acres required for the warehouse and access road to the warehouse are not included in the total acreage.

DATA REQUESTS

34. Please provide aerial photographs showing the areas of existing disturbance and the areas where new disturbance will occur (Table 5.3-4). Include the plant site, linear facilities, substation, pumping station, warehouse and access road to the warehouse (Figure 3.4-3 and page 1-3).
35. Table 5.3-4 shows 14 to 16 acres of access roads to the transmission lines as a temporary construction disturbance. Please clarify if these access roads needed for construction will be used during operation for maintenance.
36. Please provide the acreage of the 80 existing distribution line poles that will be removed and replaced by 20 transmission line poles.

ISSUE: Dissolved solids present in the cooling tower drift will deposit and may accumulate on the surrounding vegetation. Section 5.3.31 page 5.3-25 and Figures 3.4-7 and 3.4-8 of the AFC lists some of the dissolved solids that will be present in the drift. Inorganic constituents, such as arsenic, listed in Table 3.4-3 as being in the water source, are not included in these lists.

DATA REQUEST

37. Please provide the concentrations expected in the cooling tower drift of all constituents listed in Table 3.4-3. Provide estimates of yearly deposition and a discussion of any potential impacts to surrounding vegetation, particularly from fluoride and boron.

ISSUE: Transmission Line Route 1B passes through the Occidental of Elk Hills, Inc., Conservation Area. This conservation area was set aside to compensate for past disturbances in the Elk Hills Naval Petroleum Reserves and for the long term benefit of sen

DATA REQUEST

38. Please describe which portion of the transmission line will cross the Conservation Area and provide documentation on what is and is not permitted in the Conservation Area as per the federal consultation or any other agreements.

**ELK HILLS POWER PROJECT
DATA REQUESTS
(99-AFC-1)**

ISSUE: The blunt-nosed leopard lizard, federally and state endangered, is active during a narrow range of surface temperatures. Because of an unusually cool spring, surveys conducted by Elk Hills Power Project in 1999 would not have detected many lizards that could in fact occur in the project area. The state California Department of Fish and Game does not allow take of this fully protected species.

DATA REQUEST

39. Please describe what surveys will be done to determine blunt-nosed leopard lizard occurrences.

ISSUE: Please clarify or provide the following:

DATA REQUESTS

40. In Table 5.3-3, are the number of species sightings made during the winter surveys included in, or in addition to, the number of species sightings listed under the spring survey?

41. Please add western burrowing owl to Table 5.3-3.

42. What is PM on Map 4-11 in Appendix J?

43. Which map shows the four occurrences of Hoover's eriastrum and one lesser saltscale identified within mile of the plant site (page 5.3-20)?

Technical Area: Transmission System Engineering

Author: Albert McCuen

ISSUE: Staff must analyze the transmission and interconnection alternatives. Please provide:

DATA REQUEST

44. A complete description of transmission and interconnection alternatives to determine the full impacts of the Sunrise Cogeneration and Power Project and Elk Hills Power Project.

ISSUE: Staff must analyze the potential for the project to necessitate additional interconnection facilities. Based on a study filed by the Elk Hills Power Project in the La Paloma case, staff has learned that new facilities may be required at the Midway substation and some existing facilities may need to be relocated. Staff needs

**ELK HILLS POWER PROJECT
DATA REQUESTS
(99-AFC-1)**

descriptions of the specific equipment and relocation requirements for the analysis of the Sunrise Cogeneration and Power project and Elk Hills Power Project.

DATA REQUESTS

45. Please provide descriptions of the equipment required for interconnection.
46. If there are new interconnection alternatives, please provide a description of them and an identification of environmental or other impacts and mitigation. These should be discussed in the same detail as other transmission system alternatives.

ISSUE: The Elk Hills Power Project Interconnection Study also indicates the need for “rearrangement of the 230 kV Midway (“Buttonwillow”) substation bus and rearrangement of transmission line towers in the immediate vicinity of the substation”.

DATA REQUEST

47. Please describe these rearrangements, provide a one line diagram of the existing and proposed bus, breaker and transformer configuration and a sketch showing the plan and profile arrangement of the lines entering the substation. Identify and discuss any electrical clearance, reliability, land use, biological resources, cultural resources, paleontological resources and geological resources and hazards, visual resource impacts, and potential mitigation measures for each.

ISSUE: Discussion of a transmission line alternative has taken place which would terminate the Sunrise Cogeneration and Power Project at the Elk Hills Power Project. These two projects would then “share” the Elk Hills Power Project proposed double circuit 230 kV line from the Elk Hills Power Project to the Midway substation. This configuration is critical to the Elk Hill Power Project applicant’s contention that only two additional bays in the Midway substation would be needed to connect all three projects.

DATA REQUEST

48. Please describe the facilities necessary to terminate the Sunrise Cogeneration and Power Project at the Elk Hills Power Project including revised switchyard, route and address the issues discussed in the previous paragraph for the new route.

Staff is requesting the above information also from the Sunrise Cogeneration and Power Project applicant with regard to their facilities. It is understood that the Elk Hills Power, LLC may not have access to full information. Please respond with the information available.